

CLAIMS:

1. An adjustable extension arm for mounting an electronic device thereto, said extension arm comprising a forearm extension having a first end and a second end for attachment of an electronic device thereto; a first endcap having a first end attachable to a support structure; a second endcap having a first end rotationally attached to said first end of said forearm extension; and elongated first and second channel members having first and second ends, said first and second channel members being nested together to form a channel therebetween, said first channel member comprising an elongated hollow member providing a first cavity extending therethrough, a first reinforcing member received within said first cavity and having first and second ends, and first and second roller units, said first roller unit including a first end coupled to said first end of said first reinforcing member and a second end pivotably coupled to said first end cap, said second roller unit including a first end coupled to said second end of said first reinforcing member and a second end pivotably coupled to said second end cap; said second channel member comprising an elongated hollow member providing a second cavity extending therethrough, a second reinforcing member received within said second cavity and having first and second ends, and third and fourth roller units, said third roller unit including a first end coupled to said first end of said second reinforcing member and a second end pivotably coupled to said first end cap, said fourth roller unit including a first end coupled to said second end of said second reinforcing member and a second end pivotably coupled to said second end cap.

2. The extension arm of claim 1, wherein said forearm extension includes a first opening at said first end and a second opening adjacent said second end, said first and second openings in communication with each other through a channel provided within said forearm extension between said first and second ends, and said second endcap having an opening

extending therethrough in communication with said first opening within said forearm extension.

3. The extension arm of claim 1, wherein said reinforcing members comprise hollow members having open ends, said first ends of said roller units comprising a projecting member received within a respective open end of one of said reinforcing members, and said second ends of said roller units comprising a cylindrical member.

4. The extension arm of claim 3, wherein said first and second reinforcing members each include a top wall and a bottom wall, said top wall including a first void adjacent the first and second ends of said reinforcing members, said bottom wall including a second void adjacent the first and second ends of said reinforcing members in respective alignment with said first voids, said projecting members of said roller units each including a third void in respective alignment with said first and second voids within said top and bottom walls of said reinforcing members, and a fastener within said aligned first, second and third voids securing said roller units to said first and second channel members.

5. The extension arm of claim 4, wherein said fastener comprises a mass of aluminum material adhered to said first and second channel member and said projecting members of said roller units.

6. The extension arm of claim 1, wherein said forearm extension comprises an elongated hollow body having first and second ends, a first coupling attached to said first end of said body and a second coupling attached to said second end of said body.

7. The extension arm of claim 6, wherein said first coupling includes a first end having a bore therein adapted for pivotably mounting said forearm extension to said second end cap, and a second end attached within the first end of said body.

8. The extension arm of claim 7, wherein said second coupling includes a first end having a bore therein adapted

for coupling an electronic device thereto, and a second end attached within the second end of said body.

9. The extension arm of claim 8, wherein said second ends of said first and second couplings comprise U-shaped members.

10. The extension arm of claim 8, wherein said first and second coupling each include a stop member limiting the extent of engagement of said second ends of said couplings within said first ends of said body.

11. An adjustable extension arm for mounting an electronic device thereto, said extension arm comprising a forearm extension including a hollow elongated body having a first end and a second end for attachment of an electronic device thereto; a first endcap having a first end attachable to a support structure; a second endcap having a first end rotationally attached to said first end of said forearm extension; and elongated first and second channel members having first and second ends, said first and second channel members being nested together to form a channel therebetween, said first channel member comprising an elongated hollow member providing a first cavity extending therethrough, a first reinforcing member received within said first cavity, and having first and second ends, and first and second roller units, said first roller unit including a first end coupled to said first end of said first reinforcing member and a second end pivotably coupled to said first end cap, said second roller unit including a first end coupled to said second end of said first reinforcing member and a second end pivotably coupled to said second end cap; said second channel member comprising an elongated hollow member providing a second cavity extending therethrough, a second reinforcing member received within said second cavity, and having first and second ends, and third and fourth roller units, said third roller unit including a first end coupled to said first end of said second reinforcing member and a second end pivotably coupled to said first end cap, said fourth roller unit

including a first end coupled to said second end of said second reinforcing member and a second end pivotably coupled to said second end cap; said reinforcing members comprising hollow members having open ends, said first ends of said roller units comprising a projecting member received within a respective end of one of said reinforcing members, and said second ends of said roller units comprising a cylindrical member; said forearm extension including a first coupling attached to said first end of said body and a second coupling attached to said second end of said body, said first coupling including a first end having a bore therein adapted for pivotably mounting said forearm extension to said second end cap, and a second end attached within the first end of said body, said second coupling including a first end having a bore therein adapted for coupling an electronic device thereto, and a second end attached within the second end of said body.

12. The extension arm of claim 11, wherein said first and second reinforcing members each include a top wall and a bottom wall, said top wall including a first void adjacent the first and second ends of said reinforcing members, said bottom wall including a second void adjacent the first and second ends of said reinforcing members in respective alignment with said first voids, said projecting members of said roller units each including a third void in respective alignment with said first and second voids within said top and bottom walls of said reinforcing members, and a fastener within said aligned first, second and third voids securing said roller units to said first and second channel members.

13. The extension arm of claim 12, wherein said fastener comprises a mass of aluminum material adhered to said first and second channel member and said projecting members of said roller units.

14. A channel member for an adjustable extension arm, said channel member comprising an elongated hollow member providing a cavity extending therethrough, a reinforcing member having first and second ends received within said

cavity, and first and second roller units, said first roller unit including a first end coupled to said first end of said reinforcing member and a second end adapted for coupling to a first end cap of an adjustable extension arm, said second roller unit including a first end coupled to said second end of said first reinforcing member and a second end adapted for coupling to a second end cap of an adjustable extension arm.

15. The channel member of claim 14, wherein said reinforcing member comprises a hollow member having open ends, said first ends of said roller units comprising a projecting member received within a respective open end of said reinforcing member, and said second ends of said roller units comprising a cylindrical member.

16. The channel member of claim 15, wherein said reinforcing member includes a top wall and a bottom wall, said top wall including a first void adjacent the first and second ends of said reinforcing member, said bottom wall including a second void adjacent the first and second ends of said reinforcing member in respective alignment with said first voids, said projecting member of said roller units each including a third void in respective alignment with said first and second voids within said top and bottom walls of said reinforcing member, and a fastener within said aligned first, second and third voids securing said roller units to said channel member.

17. The channel member of claim 16, wherein said fastener comprises a mass of aluminum material adhered to said channel member and said projecting members of said roller units.

18. The channel member of claim 14, wherein said elongated hollow member has a U-shaped cross-section.

19. The channel member of claim 14, wherein said hollow member includes a pair of spaced sidewalls connected by a top wall and opposing shelves inwardly projecting from said sidewalls, said sidewalls, said shelves and said top wall defining said cavity.

20. A forearm extension for an adjustable extension arm, said forearm extension comprising an elongated hollow body having first and second ends, a first coupling attached to said first end of said body and a second coupling attached to said second end of said body, said first coupling including a first end having a bore therein adapted for pivotably mounting said forearm extension to a second end cap of an adjustable extension arm and a second end attached within the first end of said body, said second coupling including a first end having a bore therein adapted for coupling an electronic device thereto and a second end attached within the second end of said body.

21. The forearm extension of claim 20, wherein said second ends of said first and second couplings comprise U-shaped members.

22. The forearm extension of claim 20, wherein said first and second couplings each include a stop member limiting the extent of engagement of said second ends of said couplings within said first ends of said body.

23. The forearm extension of claim 20, wherein the second ends of said first and second couplings include a void.

24. The forearm extension of claim 23, further including a mass of aluminum material adhered to an inner surface of said hollow body within said void.

25. A method of making a channel member for an adjustable extension arm, said method comprising forming an elongated hollow member having a cavity extending therethrough, inserting a reinforcing member having first and second ends into said cavity, coupling one end of a first roller unit to said first end of said reinforcing member, and coupling one end of a second roller unit to said second end of said reinforcing member.

26. The method of claim 25, further including forming said first and second ends of said reinforcing member with first and second respective voids, forming said one end of said first roller unit with a third void and said one end of

said second roller unit with a fourth void, aligning said first and second voids with a corresponding one of said third and fourth voids.

27. The method of claim 26, securing said first and second roller units to said channel member by filling the aligned voids with aluminum material.

28. The method of claim 25, forming said first and second roller units with another end in the form of a cylindrical member.

29. The method of claim 25, wherein said first and second ends of said reinforcing member comprises open ends, and wherein said coupling step comprises inserting said one end of said first and second roller units into a respective one of said open ends.

30. The method of claim 25, wherein said elongated hollow member has a predetermined length by severing a portion forming said elongated member from an elongated hollow member of greater length.

31. A method of making an adjustable extension arm for mounting an electronic device thereto, said method comprising forming a first channel member having a cavity extending therethrough, inserting a first reinforcing member having first and second ends into said cavity, coupling one end of a first roller unit to said first end of said first reinforcing member and coupling one end of a second roller unit to said second end of said first reinforcing member; forming a second channel member having a cavity extending therethrough, inserting a second reinforcing member having first and second ends into said cavity, coupling one end of a third roller unit to said first end of said second reinforcing member and coupling one end of a fourth roller unit to said second end of said second reinforcing member; nesting said first and second channel members together; pivotably attaching one common end of said first and second channel members to a first end cap; pivotably attaching the other common end of said first and second channel members to a second end cap; and pivotably

attaching one end of said second end cap to a forearm extension.

32. The method of claim 31, wherein said first channel member has a predetermined length by severing a portion forming said first channel member from an elongated channel member of greater length.

33. The method of claim 32, wherein said second channel member has a predetermined length by severing a portion forming said second channel member from an elongated channel member of greater length.

34. The method of claim 31, further including forming said first and second ends of said first reinforcing member with first and second respective voids, forming said one end of said first roller unit with a third void and said one end of said second roller unit with a fourth void, aligning said first and second voids with a corresponding one of said third and fourth voids.

35. The method of claim 34, further including forming said first and second ends of said second reinforcing member with first and second respective voids, forming said one end of said third roller unit with a third void and said one end of said fourth roller unit with a fourth void, aligning said first and second voids of said second reinforcing member with a corresponding one of said third and fourth voids.

36. The method of claim 34, further including securing said first and second roller units to said channel member by filling the aligned voids with aluminum material.

37. The method of claim 31, further including forming said first and second roller units with another end in the form of a cylindrical member.

38. The method of claim 31, wherein said first and second ends of said reinforcing member comprises open ends, and wherein said coupling step comprises inserting said one end of said first, second, third and fourth roller units into a respective one of said open ends.

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